

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
10 January 2002 (10.01.2002)

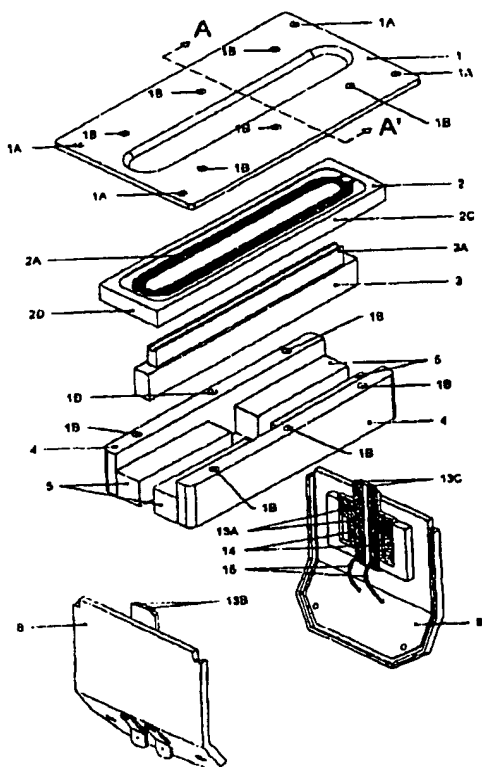
PCT

(10) International Publication Number  
**WO 02/03748 A2**

- (51) International Patent Classification: **H04R**
- (21) International Application Number: **PCT/GR01/00029**
- (22) International Filing Date: **28 June 2001 (28.06.2001)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:  
20000100217 **3 July 2000 (03.07.2000) GR**
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- (81) Designated States (national): **AL, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.**
- (84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CI, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).**
- Declaration under Rule 4.17:**  
of inventorship (Rule 4.17(iv)) for US only

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(54) Title: **ELECTROACOUSTIC TRANSDUCER WITH FIELD REPLACEABLE DIAPHRAGM CARRYING TWO INTERLACED COILS, WITHOUT MANIPULATING ANY WIRES**



(57) Abstract: A diaphragmatic (planar) electroacoustic transducer forms a complete sound radiating transducer, with high efficiency and linearity. An easily exchangeable and rectangular in shape diaphragm, of very thin polyamide film is made with a plurality of aluminum conductors formed on one side of said diaphragm. The diaphragm with the plurality of conductors form two identical and symmetrical coils which are the one, inside the other, in an order, that conductors of each coil are interlaced. The two sections of the coils are disposed in dense air - gaps of the magnet system, which comprises a plurality of high (BH<sub>max</sub>) Neodymium magnets. The binary interlaced coils can be utilized in a number of modes, for the purpose of accomplishing a variety of operating modes, such as: 1. A series connection provides a higher sensitivity compared to single coil (2). A parallel connection converts the transducer to a higher power standing device (3). A single coil driving mode, leaves the other coil to be used as magnetic damping device for the whole diaphragm (4). Moreover a single coil driving, allows the utilization of the other coil to be as source of correcting feedback circuitry (5). The symmetry and the similarity of parameters of the two coils can be exploited in push-pull output stages for linearising purposes (6). In addition the two coils can be used in direct digital loudspeaker circuitry. The above described operating modes, are merely illustrative of the varied possibilities which may constitute applications of the invention's binary interlaced coil configuration. The binary interlaced coils of the present invention can be executed with a multiplicity of such coils, laid on the same diaphragm, for accomplishing long line source loudspeaker. Such other application may be devised by those skilled in the art, exploiting the possibilities offered by the two identical and symmetrical coils.

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